

IN THE CLAIMS:

The pending claims are presented below:

1. – 12. (Cancelled)

13. (Previously presented) A gaming system comprising:

a plurality of devices to be individually accessed, arranged in a string of N nodes having first and second spaced ends, with each node including up to M of the devices, wherein M and N are whole numbers greater than one;

a host controller directly connected to only the first end of the string and having a data out terminal;

a plurality of local controllers respectively associated with the nodes;

each local controller having a data in terminal and a data out terminal and including a M-bit shift register with the register positions respectively connected to device output terminals to which the devices of the associated node may respectively be connected;

the data out terminal of the host controller being connected to the data in terminal of a first node and the data in terminal of each of the other nodes being connected to the data out terminal of the preceding node in the string so that the string of nodes provides a (MxN)-bit shift register;

the host controller producing at its data out terminal a position-based output signal comprising a serial digital data stream including MxN bits followed by a strobe indicator so that the MxN bits are sequentially loaded into and respectively fill the positions of the (MxN)-bit

register, wherein the bits received by a node are determined by the position of the node in the string; and

each local controller being responsive to the strobe indicator for utilizing the contents of its M-bit shift register for accessing the associated devices.

14. (Original) The gaming system of claim 13, wherein each of the local controllers is a microcontroller.

15. (Canceled)

16. (Original) The gaming system of claim 13, wherein the serial digital data stream comprises binary data.

17 (Original) The gaming system of claim 13, wherein the devices include at least one device having states which are to be controlled, each local controller being responsive to the strobe indicator for latching the contents of its register to those of its device output terminals connected to the at least one device for controlling states of at the least one device.

18. (Original) The gaming system of claim 17, wherein the at least one device is an LED.

19. (Original) The gaming system of claim 13, wherein the devices include at least one device having states which are to be recorded, each local controller being responsive to the strobe indicator, for each register position connected to the at least one device, for loading into that register position a bit indicative of the current state of the at least one device.

20. (Original) The gaming system of claim 19, wherein the at least one device is a switch.

21. (Previously presented) The gaming system of claim 13, wherein the output signal is comprised of bytes each having at least one M-bit segment.

22. (Previously presented) The gaming system of claim 21, wherein consecutive M-bit segments of a byte respectively address consecutive nodes.

23. (Canceled)

24. (Previously presented) A gaming system comprising:
a plurality of devices to be individually accessed including one or more first devices to be sensed and one or more second devices to be controlled, the devices being arranged in a string of N nodes having first and second spaced ends, with each node including up to M of the devices, wherein M and N are whole numbers greater than one;

a host controller directly connected to only the first end of the string and having a data out terminal and a data in terminal;

a plurality of local controllers respectively associated with the nodes;

each local controller having a data in terminal and a data out terminal and including a M-bit shift register with the register positions respectively connected to device output terminals to which the devices of the associated node may respectively be connected;

the data out terminal of the host controller being connected to the data in terminal of a first node and the data in terminal of each of the other nodes being connected to the data out terminal of the preceding node in the string so that the string of nodes provides a (MxN)-bit shift register, and the data out terminal of a last node being connected to only the data in terminal of the host controller;

the host controller producing at its data out terminal a position based output signal comprising a serial digital data stream including MxN bits followed by a strobe indicator so that the MxN bits to be sequentially loaded into and respectively fill the positions of the (MxN)-bit register, wherein the bits received by a node are determined by the position of the node in the string, and

each local controller being responsive to the strobe indicator for: (a) for each of its register positions connected to a first device, loading into that register position a bit indicative of the current state of the first device; and (b) for each of its register positions connected to a second device, latching the contents of that position to its associated device output terminal for controlling the associated second device.

25. – 26. (Canceled)

27. (Original) The gaming system of claim 24, wherein the output signal comprises binary data.

28. (Original) The gaming system of claim 24, wherein each of the first devices is a switch and each of the second devices is an LED.

29. (Original) The gaming system of claim 24, wherein the contents of the (MxN)-bit register is returned to the data in terminal of the host controller in response to the loading into the (MxN)-bit register of an output signal from the host controller.

30. (Original) The gaming system of claim 24 wherein all of the devices are associated with a single gaming machine.

31. (Previously presented) A method for individually accessing each of a plurality of devices in a gaming system comprising:

grouping the devices into a string of N nodes having first and second spaced ends, with each node including a local controller forming a M-bit shift register and up to M devices respectively connected to device terminals respectively connected to the register positions of the local controller, wherein M and N are whole numbers greater than one;

connecting the local controllers in series with one another and with a data out terminal of a host controller directly connected to only the first end of the string so that the local controllers cooperate to define an (MxN)-bit shift register;

providing a power line connected to all of the controllers and a common line connected to all of the controllers, and

transmitting from the host controller data out terminal to all of the local controllers a position based serial digital data message including MxN bits respectively corresponding to the devices for individually controlling the devices so that the MxN bits respectively occupy the MxN positions of the shift register, wherein the bits received by a node are determined by the position of the node in the string.

32. (Previously presented) The method of claim 31, wherein the data message terminates with a strobe indicator which causes each local controller to access the devices connected thereto in accordance with bits of the data message corresponding to that local controller.

33. (Canceled)

34. (Original) The method of claim 31, wherein the devices include at least one device having states which are to be sensed, and further comprising sensing the current state of the at least one device, and returning to the host controller from each node a signal indicative of the current state of the at least one device.

35. (Previously presented) The method of claim 34, wherein each digital data message terminates with a strobe indicator, and each local controller responds to the strobe indicator for storing, for each at least one device connected thereto, a data bit corresponding to the current state of the at least one device, the stored bits being shifted from the register in response to a next data message from the host controller.

36. (Original) The method of claim 31, wherein the devices include at least one device having states which are to be controlled, and further comprising controlling the states of the at least one device in response to the data message.